

CLAIMS

1. A fine particle of polymer for a plastisol free from halogen atoms and having a specific surface area of 0.6 to 20.0 m²/g as determined by nitrogen-gas adsorption.

2. The fine particle of polymer for a plastisol as claimed in Claim 1 wherein an oil absorption rate by linseed oil is 0.8 mL/g or less.

3. The fine particle of polymer for a plastisol as claimed in Claim 1 or 2 wherein the fine particle of polymer is made of an acrylic polymer.

4. The fine particle of polymer for a plastisol as claimed in Claim 1, 2 or 3 wherein the fine particle of polymer has two or more polymer layers having different compositions concentrically from the particle center to its surface.

5. The fine particle of polymer for a plastisol as claimed in any of Claims 1 to 4 consisting of agglomerates formed from a plurality of primary particles wherein the primary particles have an average particle size of at least 500 nm.

6. A process for manufacturing the fine particle of polymer for a plastisol as claimed in Claim 5, comprising the steps of:

preparing an aqueous dispersion of a fine particle of polymer in which primary particles have an

average particle size of at least 500 nm; and

drying the aqueous dispersion at not lower than 50 °C but not higher than [a glass-transition temperature of the polymer + 20] °C, by spray drying.

7. A non-halogenated plastisol composition comprising the fine particle of polymer for a plastisol as claimed in any of Claims 1 to 5 and a plasticizer.

8. A non-halogenated plastisol composition comprising the particulate acrylic polymer for a plastisol as claimed in any of Claim 5, a plasticizer and an inorganic filler.

9. The non-halogenated plastisol composition as claimed in Claim 8 wherein viscosity values at shear speeds of 10000 sec⁻¹ and 0.42 sec⁻¹ are 0.1 to 1.0 Pa·s (25 °C) and 100 to 1000 Pa·s (25 °C), respectively.

10. The non-halogenated plastisol composition as claimed in Claim 9 wherein the inorganic filler essentially consists of inorganic fillers with an average particle size of less than 2.0 μm (C1) and of 2.0 μm or more (C2) and a component ratio of these inorganic fillers (C1) to (C2) (by weight) is 30/70 to 70/30.

11. The non-halogenated plastisol composition as claimed in any of Claims 7 to 10 wherein the plasticizer comprises a phthalic acid diester of an aliphatic alcohol having 7 to 10 carbon atoms in at

least 50 wt%.

12. A coating material consisting of the plastisol composition as claimed in any of Claims 7 to 11.

13. A sealant consisting of the plastisol composition as claimed in any of Claims 7 to 11.

14. A sealant for an automobile consisting of the plastisol composition as claimed in any of Claims 7 to 11.

15. An undercoating material for an automobile consisting of the plastisol composition as claimed in any of Claims 7 to 11.

16. An article produced using the plastisol composition as claimed in any of Claims 7 to 11.